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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,374	11/21/2006	Michael Koch	284115US0PCT	2104

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EXAMINER	
KEYS, ROSALYND ANN	

ART UNIT	PAPER NUMBER
1621	

NOTIFICATION DATE	DELIVERY MODE
08/13/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/566,374	KOCH ET AL.	
	Examiner	Art Unit	
	ROSALYND KEYS	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-20 are pending.

Claims 1-20 are rejected.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al. (DE 101 52 525, which is equivalent to US 2004/0254408 A1) alone or in view of Fuchs et al. (WO 99/11615, which is equivalent to US 6,663,844 B1), for the reasons given in the previous office action, mailed February 7, 2008.

Response to Arguments

6. Applicant's arguments filed May 7, 2008 have been fully considered but they are not persuasive.

First point:

The Applicants arguments are not persuasive because just as in DE '525 the results achieved by the Cu/TiO2 catalyst compared to the Cu/Al2O3 catalyst cannot be attributed to the difference of the support material alone, neither can the results achieved by Applicants use of a Ru/TiO2 catalyst vs. the catalysts used in the prior art support a showing of unexpected results. For example, if one were to compare the ratio of catalyst: formate % by weight given in the table on page 9 of Applicants specification, one would see that there is a great disparity in the ratios of amount catalyst : formate % by weight. For DE '418 the amount of catalyst is 18.6 g and the Formate % by weight it is .39 for a ratio of 48:1; for EP '452 the amount of catalyst is 12.7 g and the Formate % by weight is 0.51 for a ratio of 25:1, for EP '045 the amount of catalyst is 21.3 g and the Formate % by weight is 0.18 for a ratio of 118:1 and for the instant invention the amount

of catalyst is 14.8 and the Formate % by weight is a mere 0.006 for a ratio of 2467:1. One having ordinary skill in the art would reasonably expect to obtain a higher Formate conversion for the instant invention as compared to the prior art given the significantly higher ratio of catalyst to formate of the instant invention. Further, based upon the data given in the table on page 9 of Applicants specification one cannot determine that the use of a Ru/TiO2 is what is attributable to the difference in formate conversion and that such difference is unexpected and unobvious and of both statistical and practical significance. MPEP 716.02 (b) states that "The evidence relied *>upon< should establish "that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance." Ex parte Gelles, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992) (Mere conclusions in appellants' brief that the claimed polymer had an unexpectedly increased impact strength "are not entitled to the weight of conclusions accompanying the evidence, either in the specification or in a declaration."); Ex parte C, 27 USPQ2d 1492 (Bd. Pat. App. & Inter. 1992) (Applicant alleged unexpected results with regard to the claimed soybean plant, however there was no basis for judging the practical significance of data with regard to maturity date, flowering date, flower color, or height of the plant.). See also In re Nolan, 553 F.2d 1261, 1267, 193 USPQ 641, 645 (CCPA 1977) and In re Eli Lilly, 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990) as discussed in MPEP §716.02(c)".

The Applicants argue that DE '525 provides no motivation whatsoever to select TiO2 as a preferred support. The Examiner disagrees. In paragraph 0025 US

2004/0254408 A1, which is the US equivalent of DE '525, it is disclosed that particular preference is given to the use of TiO2 as a support.

Second point:

The Applicants argue that the Office has not sufficiently established that it would have been "Obvious to Try" to specifically make two choices in the catalyst and the support, Ru/TiO2, with a reasonable expectation of success. The Examiner disagrees. In paragraph 0019 of the US equivalent of DE '525 ruthenium is named as a suitable catalyst and TiO2 is named as a suitable support. One having ordinary skill in the art at the time the invention was made would have a reasonable expectation of successfully removing trialkylammonium formate from methylolalkanes using any of the named catalysts and named supports disclosed by DE'525. The claim would have been obvious because "a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." KSR International Co. v. Teleflex Inc., 550 U.S.___, 82 USPQ2d 1385, 1395-97 (2007). In the instant case a ruthenium catalyst and a TiO2 support were both known options at the time the invention was made, and the skilled artisan would have a reasonable expectation of success, since they were taught by DE '525 to be suitable for use in a process for removing trialkylammonium formate from methylolalkanes (see paragraph 0012 of US 2004/0254408 A1.

Third point:

The Applicants argue that the combination of Ru and TiO2 leads to a dramatic increase in formate-conversion and shows a performance which is improved almost by a factor of 2 compared to the catalysts systems known from the prior art. This argument is not persuasive because as explained earlier the Applicants have not established that it is the combination of Ru and TiO2 that leads to the dramatic increase in formate-conversion. The results could be attributable to the ratio of the amount of catalyst: formate % by weight. That the Applicants have not established a nexus between increased formate conversion and the selection of Ru and TiO2. Further, the Examiner believes that DE'525 shows that one would expect there to be differences in formate conversion when one changes the catalyst and/or support. Any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Examiner does not believe that the results are unexpected, especially given the high ratio of catalyst: formate % by weight used in the instant invention as compared to the prior art (see ratios in the First point above).

For the above reasons, the Examiner believes a prima facie case of obviousness has been established and that the data submitted by Applicants does not show unexpected results. The rejection of claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over Koch et al. (DE 101 52 525, which is equivalent to US 2004/0254408 A1) alone or in view of Fuchs et al. (WO 99/11615, which is equivalent to US 6,663,844 B1) is maintained.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROSALYND KEYS whose telephone number is (571)272-0639. The examiner can normally be reached on M, Th & F 5:30-7:30 am & 1-5 pm; T & W 5:30 am-4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Sullivan can be reached on 571-272-0779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROSALYND KEYS/
Primary Examiner, Art Unit 1621

August 7, 2008